

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

Claim 1 (canceled).

2. (currently amended) A method according to Claim 1 ~~20~~, wherein said reactive gas consists essentially of a member selected from ~~the group consisting of~~ oxygen-containing, nitrogen-containing gases and mixtures thereof.

3. (currently amended) A method according to Claim 1 ~~20~~, wherein a ratio of ~~said reactive gas, which is indicated by~~ $\frac{\text{flow rate of the reactive gas}}{\text{flow rate of the reactive gas} + \text{flow rate of an inert gas}} \times 100$ is ~~within a range of 0 to~~ not greater than 50%.

4. (currently amended) A method according to Claim 1 ~~20~~, wherein the dry plating is sputtering.

Claims 5-19 (canceled).

20. (new) A method for controlling a refractive index of dry plating film which comprises the steps of: providing silicon carbide as a starting source consisting essentially of a silicon carbide sintered product which is obtained by sintering a homogeneous mixture having a density of 2.9g/cm^3 or over and made of silicon carbide powder and a non-metallic sintering aid, and subjecting the silicon carbide to dry plating while controlling a concentration of a reactive gas including a nitrogen-containing gas thereby forming a thin film, on the substrate, made primarily of silicon carbide and having a refractive index ranging from 1.4 to 2.8.

21. (new) A method according to claim 20, wherein said non-metallic sintering aid is selected from coal tar pitch, phenolic resins, furan resins, epoxy resins, glucose, sucrose, cellulose and starch.

22. (new) A method for making a dry plating built-up, comprising the steps of; providing silicon carbide as a starting source, and subjecting the silicon carbide to dry plating while changing a concentration of a reactive gas continuously or intermittently, thereby depositing and forming, on a substrate, a thin film having different refractive indices which changes in a wave form selected from a rectangular wave, triangular wave and sine wave in the thickness direction thereof.